UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

March 1961

Part II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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FIRST SONAR CRUISE COMPLETED BY LABORATORY SCIENTISTS

Two San Diego Biological Laboratory scientists returned March 27 from a 16-day tuna fishing trip in the Gulf of California aboard the purse seiner WEST POINT. This was the first trip with a west coast commercial tuna purse seiner equipped with a high-power sonar unit. The laboratory is conducting tests of sonar to evaluate its usefulness in improving tuna fishing efficiency and as a tool for studying the schooling behavior of tunas in the eastern Pacific.

Because yellowfin tuna were encountered in abundance and land-based airplanes were available to the vessel's master, the sonar unit was not used for directing purse seining operations on this trip. However, the unit was operated continuously during each operation. Permanent recordings produced by the unit will be useful in planning sonar-directed purse seine sets in the future. Records were obtained during sets directed by a "mast-man" (observer stationed in the "crows-nest" for high angle visibility) and by an observer in a circling "spotter" airplane (radio-telephone communications).

Results of sonar scanning of yellowfin inside the purse seine after completion of a set were good. The unit was able to "see" through the net section next to the boat and track tuna throughout most of the net (the seine skiff propeller wake during the towing operation obscures the section toward the stern). Sonar echos from tuna inside the net were relative in intensity to the number caught, ranging from absence of echos from a "skunk" haul (no catch) to very heavy echos obtained from the largest catch. Scanning inside the net during the first part of the pursing operation was useful for detecting tuna near the "escape" area under the boat.

The next trip by laboratory scientists aboard WEST POINT is scheduled to leave San Diego, April 2, 1961.

SEA-SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN
MARCH 1961

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Ships Frances Salman, Trolleggen, Elin Haven, Besseggen, Avila and Santa Maria

Charts

Figure 1.--Mean sea-surface temperatures (°F) derived from approximately 8000 observations. Squares show temperature at weather-ship stations. Numerals on shore are temperatures at coastal and light stations.

Figure 2.--Deviation of sea-surface temperatures (°F) from long term mean charts of H. O. 225. Hatched areas are colder than mean.

Figure 3.--Deviation of sea-surface temperatures (°F) from those of March 1960. Hatched areas are colder than 1960.

Figure 4.--Sea-surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal and light stations.

Figure 5.--Deviation of sea-surface temperatures (°F) March 1961 - March 1960 by 1-degree squares. Shaded areas colder in 1961.

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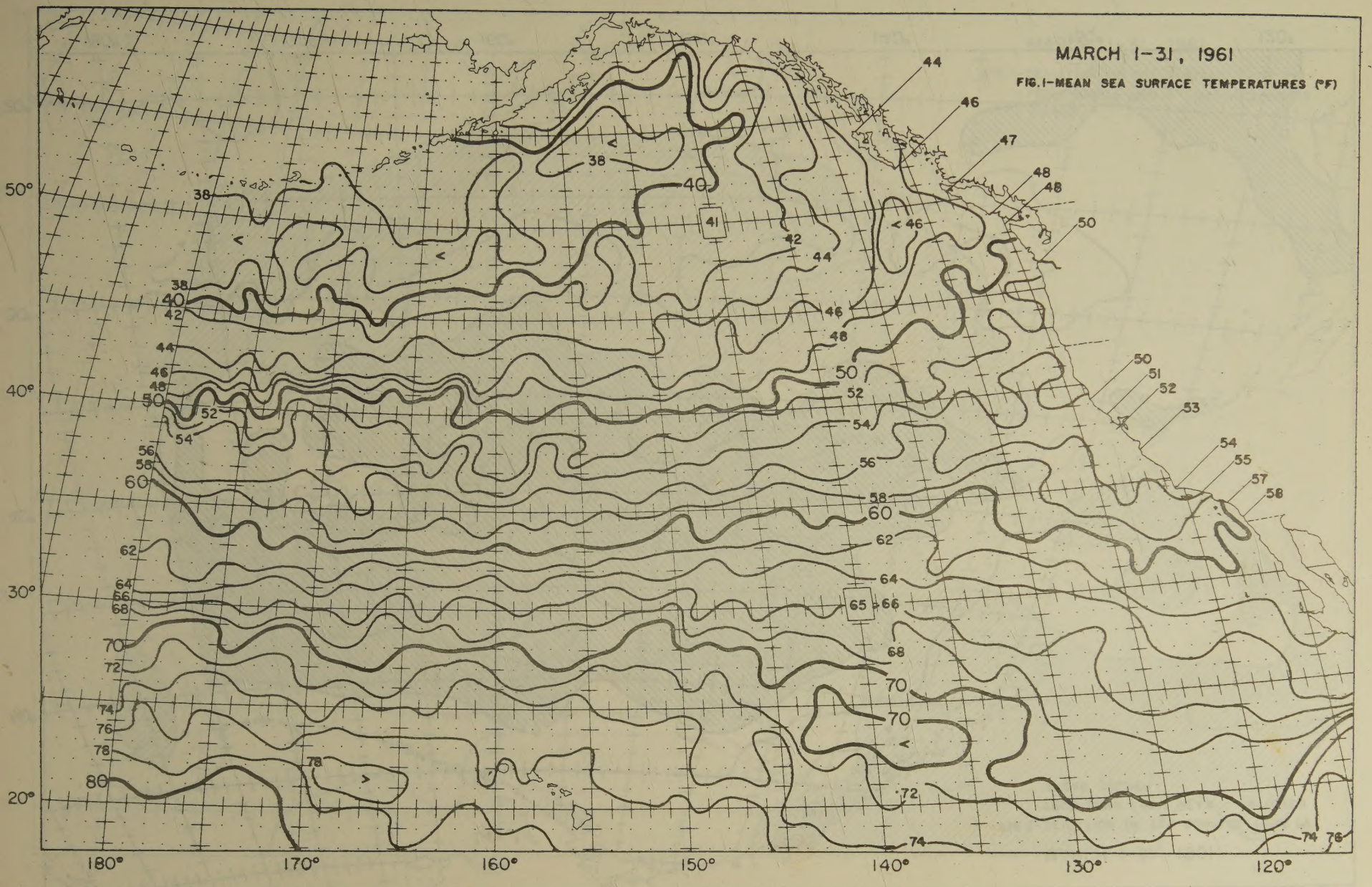
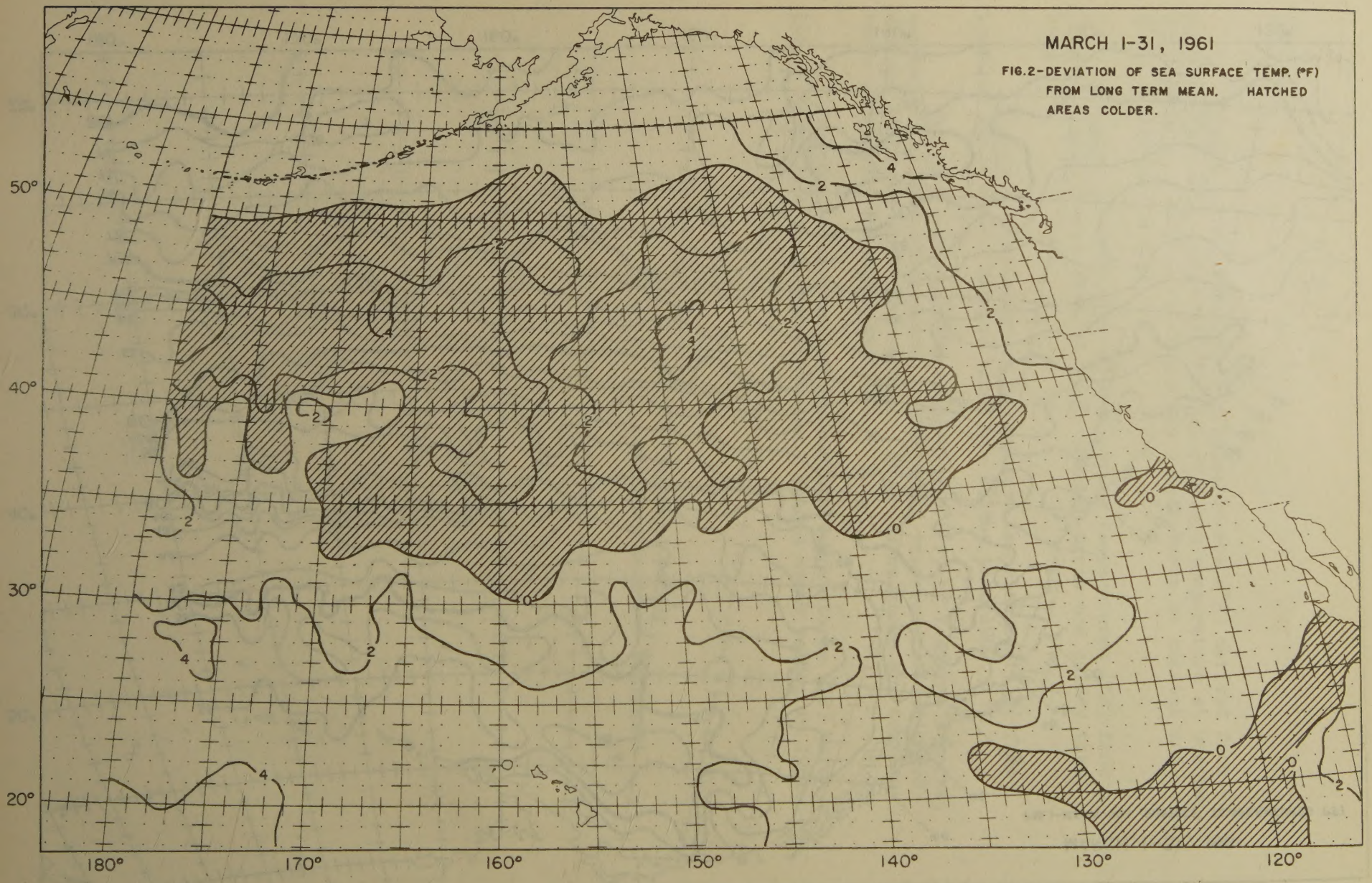
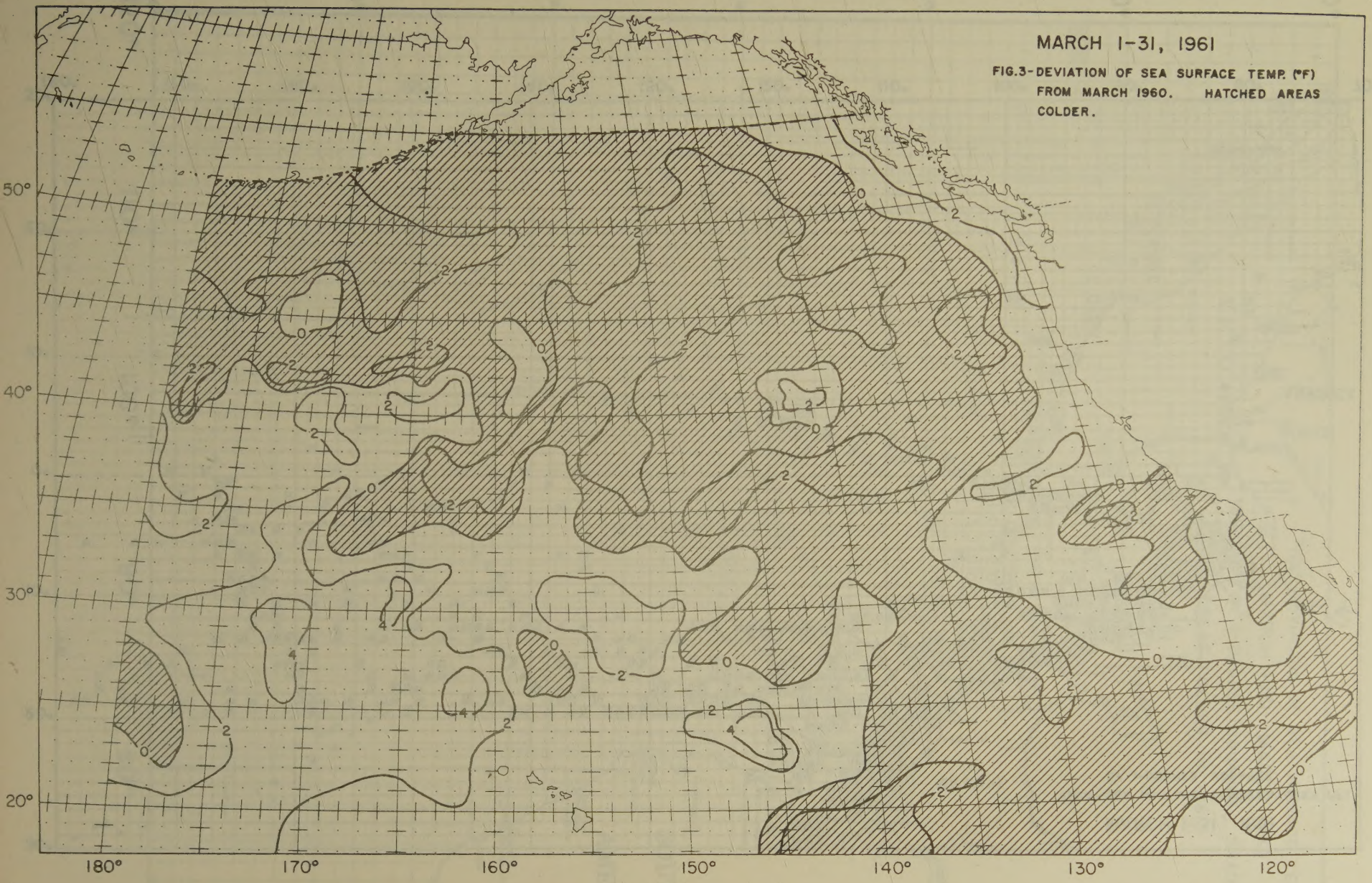
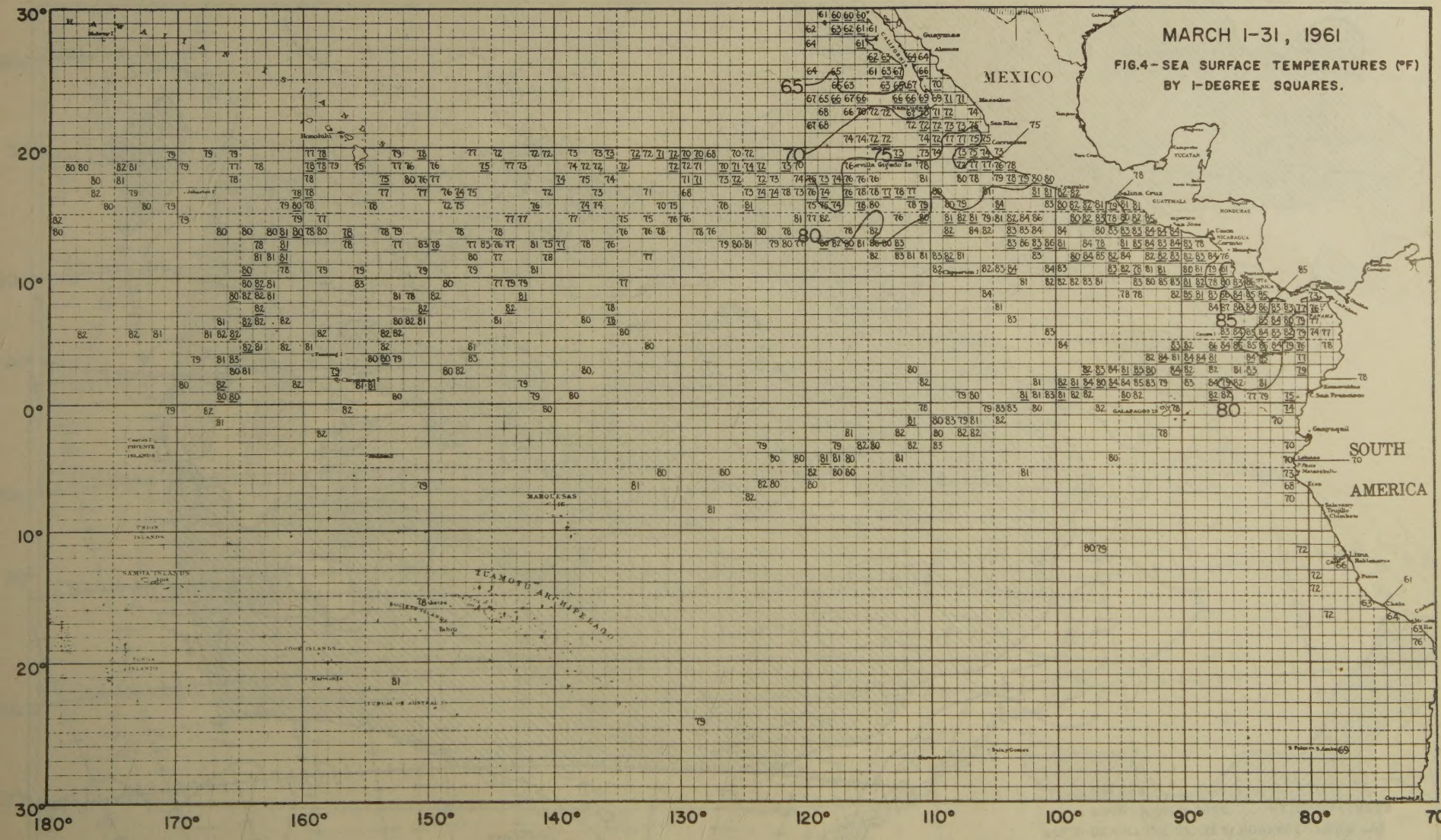

MARCH 1-31, 1961
FIG. 1-MEAN SEA SURFACE TEMPERATURES (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


MARCH 1-31, 1961
FIG.2-DEVIATION OF SEA SURFACE TEMP. (°F) FROM LONG TERM MEAN. HATCHED AREAS COLDER.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


MARCH 1-31, 1961
FIG.3-DEVIATION OF SEA SURFACE TEMP. (°F) FROM MARCH 1960. HATCHED AREAS COLDER.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


MARCH 1-31, 1961
FIG.4 - SEA SURFACE TEMPERATURES (°F)
BY 1-DEGREE SQUARES.
MEXICO
SOUTH
AMERICA
HAWAIIAN ISLANDS
Honolulu
PHOENIX ISLANDS
MARQUESAS
TUAMOTU ARCHIPELAGO
SAMOA ISLANDS
COOK ISLANDS
TONGA ISLANDS
UNION ISLANDS
GALAPAGOS IS.
30°
20°
10°
0°
10°
20°
30°
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°

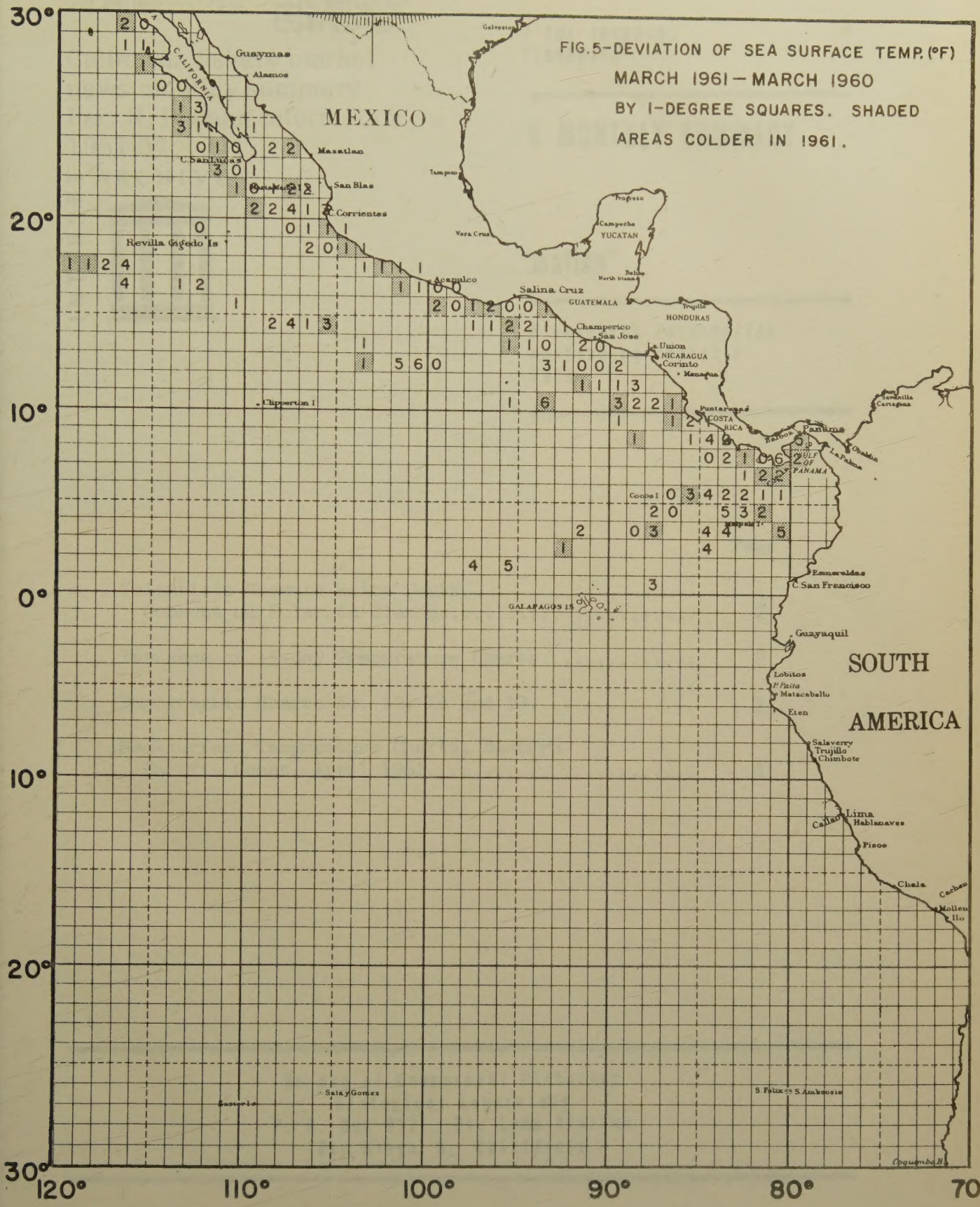


FIG. 5-DEVIATION OF SEA SURFACE TEMP. (°F)
MARCH 1961 — MARCH 1960
BY 1-DEGREE SQUARES. SHADED
AREAS COLDER IN 1961.
MEXICO
CALIFORNIA
Guaymas
Alamos
Mazatlan
San Blas
C. Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
GUATEMALA
HONDURAS
Champerico
San Jose
La Union
NICARAGUA
Corinto
Managua
Chipperton I
COSTA RICA
Puntarenas
Balboa
Panama
GULF OF PANAMA
La Palma
Cocos I
Esmeraldas
C. San Francisco
GALAPAGOS IS
Guayaquil
SOUTH AMERICA
Lobitos
P. Pasta
Matacaballo
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Huacho
Pisco
Chala
Mollendo
Sala y Gomez
S. Felix & S. Ambrosio
30°
20°
10°
0°
10°
20°
30°
120°
110°
100°
90°
80°
70°